

[in the range of] from about .01% by weight to about 5.0% by weight at least one xanthan gum having a particle size less than 100 microns and an effective amount of a corrosion inhibiting system [comprised of] comprising ferric pyrophosphate.

Remarks:

There has been a change in the attorney prosecuting the subject application and, except as noted below, the amendments above have been requested merely to accommodate the stylistic preferences of the attorney now prosecuting the application.

Claim 79 has been indicated as being in allowable condition.

Double Patenting Rejection

Favorable reconsideration is respectfully requested of the provisional non-statutory obviousness-type double-patenting rejection of claims 1, 3, 5, 6, 9, 13-14, 16-18, 22, 41, 42, 44, 46, 47, 53-55, 57-58 and 62 (claims 15 and 56 having been canceled). According to the Office Action, the claims of the subject application are not patentably distinct from those of co-pending application serial number 09/978,401 "because the composition of the present invention encompasses that of 09/978,401. However, the composition of the present invention does not in fact encompass that of 09/978,401. The present claims call for the composition to contain at least one corrosion inhibitor as identified in the claims. No corrosion inhibitor, let alone one of the types identified in the subject claims, is called for in the claims of 09/978,401. Therefore,

compositions of 09/978.401 that are free of any corrosion inhibitor or any equivalent thereof may fall outside the scope of the subject claims.

Further, there is no teaching or suggestion in the claims of 09/978,401 of including a corrosion inhibitor in the composition with the phosphate and the biopolymer of average particle size less than about 100 microns. Moreover, as noted at page 10 of the subject specification, “[c]onventional xanthan thickeners having average particle diameters in excess of about 100 microns perform unacceptably in contact with liquid ammonium polyphosphate compositions. However, the inventors have found that reducing the particle diameter of biopolymers improves the ability of the biopolymers to rapidly increase the viscosity of the fire retardant composition upon subsequent dilution with water and exhibit increased corrosion inhibition, generally.” Nothing in the claims of 09/978,401 teach or suggest that the viscosity improvement will obtain if the corrosion inhibitors of the subject invention are incorporated into the composition as well or that incorporating the corrosion inhibitors into the composition will increase their efficacy. Thus, the claims of 09/978,401 nowhere teach or suggest the composition of the subject claims or the surprisingly beneficial results obtained therefrom. Accordingly, the subject claims define patentably over those of 09/978,401.

35 U.S.C. §112 Rejections

Favorable reconsideration is respectfully requested of the rejections of claims 1-14, 16-33, 35-55, 57-72 and 74-78 (claims 15, 34, 56 and 73 having been canceled) under 35 U.S.C. §112 in view of some of the amendments above and the comments that follow. With respect to the objection raised with respect to the Markush language, it is noted that there is no required language for claims. The language as considered in *Ex parte Markush* was found to be

acceptable, but there is no requirement that a claim follow that language. In any event, however, the claims have been amended so as to obviate such objections.

With respect to the objection to the language regarding soluble and insoluble ferric pyrophosphate and soluble and insoluble orthophosphate, the terminology is well understood and established. Moreover, although the Office Action states that it is not understood whether the phrase "soluble ferric pyrophosphate" means a combination of ferric pyrophosphate and sodium citrate, it is noted that the phrase is explicitly so defined in the specification at page 7, lines 12-13. Accordingly, it is believed that the phrase is clear. Nevertheless, the references to "soluble" being redundant anyway,¹ the claims have been amended to obviate the subject rejection by eliminating the references to "soluble" and "insoluble" as they were applied to ferric pyrophosphate and ferric orthophosphate.

With respect to the assertion that it is unclear in claims 3, 22, 26, 44, 62 and 66 as to how the additional corrosion inhibitors differ from those in the corrosion inhibiting system, it is believed that the claims are indeed clear. The cited claims state that the composition further comprising an additional ingredient, which may be an inhibitor. Therefore, the cited claims call for an inhibitor or other additive further to that called for in the corrosion inhibiting system. It is believed that the references to claims 22 and 62 are in error. Thus, it is believed that claims 3, 22, 26, 44, 62 and 66 are clear within the dictates of 35 U.S.C. §112.

¹ For example, "ferric pyrophosphate" literally reads on ferric pyrophosphate whether or not the composition also contains sodium citrate and so literally reads on insoluble ferric pyrophosphate (without sodium citrate) as well as soluble ferric pyrophosphate (with sodium citrate). Thus, the separate references to "insoluble ferric pyrophosphate" and to "soluble ferric phosphate" are unnecessary.

Claim 5 has been amended to obviate the objection as to lack of antecedent basis for the phrase "coloring agent."

With respect to the objection to the phrase "highly colored agents" in claims 5, 30 and 46, those claims have been amended so that the phrase reads "highly colored pigments" so that the phrase correspond identically in language to that used in the specification. It is submitted that the phrase is clear within the context of the specification. The phrase is defined at page 17, line 13, to page 18, line 10, and again discussed at page 41, lines 1-12, where such agents are also distinguished from those that are not highly colored. It is clear from the specification that "highly colored agents" are those that impart a clearly visible color (even if under ultra-violet conditions) such as iron oxide, titanium oxide, ultraviolet sensitive dyes, and the like, as opposed to those agents that impart, for example, opacity. Thus, it is submitted that it is clear within the context of the specification what constitutes, as the claims now have been amended to read, "highly colored pigments."

Claims 7, 25, 48 and 65 have been amended as required to clarify the nature of the solubility.

The objectionable phrase "in concentrate" has been eliminated from claim 8.

The spelling of "dimercaptothiadiazole" has been corrected.

The repetition of the phrase "applying a fire suppressing composition" in claim 61 has been eliminated.

Accordingly, all objections set forth under 35 U.S.C. §112 are believed to have been satisfied and so withdrawal of the rejections thereunder are respectfully requested.

Obviousness Rejections

Favorable reconsideration is respectfully requested of the rejection of claims 1-6, 8-14, 16-18, 22-24, 26-33, 35-37, 41-47, 49-48 [sic], 62-64, 66-72 and 74-75 (claims 15, 34 and 73 having been canceled) as being obvious over the Nelson patent in view of the Crouch patent and the Strickland patent. It is unclear as to which claims are meant by "49-48," but a response to the rejection it is believed that the following remarks will support patentable distinctions over the cited references no matter which claims are intended to have been identified in the Office Action. All pending claims call for a composition, or a method related to a composition, that comprises a polyphosphate fire retardant, a certain corrosion inhibiting system and a biopolymer of weight average particle diameter of less than about 100 microns. As noted at page 10 of the subject specification, "[c]onventional xanthan thickeners having average particle diameters in excess of about 100 microns perform unacceptably in contact with liquid ammonium polyphosphate compositions. However, the inventors have found that reducing the particle diameter of biopolymers improves the ability of the biopolymers to rapidly increase the viscosity of the fire retardant composition upon subsequent dilution with water and exhibit increased corrosion inhibition, generally." Nothing in the Nelson patent discloses or suggests use of such small biopolymer particles, let alone the surprising advantages the inventors have found to result therefrom. In fact, Nelson nowhere mentions particle size at all, thus betraying no recognition, realization or appreciation that particle size might play any role at all in producing a superior product. The secondary references do not make up for any of these deficiencies. Accordingly, the subject claims define compositions and related methods with surprising advantages nowhere

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taught or suggested in the cited references. Thus, all pending claims define patentably over the Nelson, Crouch and Strickland patents, whether considered individually or in combination.

Favorable reconsideration is also requested of the rejection of claims 1-6, 8-14, 16-18, 22-24, 26-33, 35-37, 41-47, 49-55, 57-58, 62-64, 66-72 and 74-75 (claims 15, 34, 56 and 73 having been canceled) as being obvious over European patent document 693304. As the Nelson patent discussed above, the cited European patent document nowhere teaches or suggests the use of a biopolymer of small particle size as called for in all pending claims, the advantages that might be achieved with such small particles, or the possibility that particle size might have any significance at all. Thus, it is submitted that all pending claims define patentably over the cited European patent documents for the same reasons as discussed above with respect to the Nelson patent.

Conclusion

In view of the foregoing, it is submitted that the application is now in allowable condition and favorable reconsideration and early allowance of claims 1-14, 16-33, 35-55, 57-72 and 74-79 are earnestly solicited.

Respectfully submitted,

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CLEAN COPY OF AMENDED CLAIMS

1. (Amended) A corrosion-inhibited fire retardant composition comprising:

at least one fire retardant comprising an ammonium polyphosphate;

at least one biopolymer having a weight average particle size diameter less than about 100 microns; and

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a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce corrosiveness of said fire retardant composition.

2. (Amended) The composition of claim 1 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptothiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

3. (Amended) The composition of claim 1 further comprising at least one additive selected from the group consisting of suspending agents, fugitive coloring agents, non-fugitive coloring agents, surfactants, stabilizers, corrosion inhibitors, opacifying pigments and any combination thereof.

4. (Amended) The composition of claim 1 wherein said composition is a concentrate suitable for dilution for direct application, said at least one corrosion inhibiting compound is at least one azole and said at least one azole is present in said corrosion-inhibited fire retardant composition in a minor amount effective to obtain a maximum corrosivity of yellow brass to a maximum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

5. (Amended) The composition of claim 1 wherein said composition further comprises a coloring agent selected from a group consisting of fugitive coloring agents, opacifying pigments, and highly colored pigments.

6. (Amended) The composition of claim 3 wherein said suspending agents are selected from the group consisting of attapulgus, sepiolite, fuller's earth, montmorillonite, and kaolin clay.

7. (Amended) The composition of claim 1 wherein said corrosion inhibiting system comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

8. (Amended) The composition of claim 1 wherein said composition is a concentrate suitable for dilution for direct application, said corrosion inhibiting system is present in said corrosion-inhibited fire retardant composition in a minor amount effective to obtain a maximum corrosivity

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to aluminum, yellow brass or steel of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

10. (Amended) The composition of claim 1 wherein said corrosion inhibiting system makes up from about 0.01% by weight to about 10% by weight of said corrosion-inhibited fire retardant composition.

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11. (Amended) The composition of claim 1 wherein said corrosion inhibiting system makes up from about 0.30% by weight to about 6.0% by weight of said corrosion-inhibited fire retardant composition.

12. (Amended) The composition of claim 1 wherein said corrosion inhibiting system makes up from about 0.6% by weight to about 5.0% by weight of said corrosion-inhibited fire retardant composition.

13. (Amended) The composition of claim 1 comprising from about 0.01% by weight to about 5.0% by weight said at least one biopolymer.

14. (Amended) The composition of claim 1 comprising about 1.0% by weight said at least one biopolymer.

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16. (Amended) The composition of claim 1 wherein said at least one biopolymer is selected from the group consisting of rhamosan, xanthan and welan biopolymers.

17. (Amended) The composition of claim 16 wherein said at least one biopolymer is at least one xanthan biopolymer.

18. (Amended) The composition of claim 17 wherein said xanthan biopolymer makes up about 1% by weight of said corrosion-inhibited fire retardant composition.

19. (Amended) The composition of claim 1 comprising from about 2% by weight to about 3% by weight ferric pyrophosphate.

20. (Amended) The composition of claim 1 comprising from about 2% by weight to about 3% by weight ferric pyrophosphate and about 1% by weight xanthan biopolymer.

AB 21. (Amended) The composition of claim 1 comprising from about 1% by weight to about 2% by weight iron oxide, from about 2% by weight to about 3% by weight ferric pyrophosphate, about 1% by weight xanthan biopolymer, from about 1% by weight to about 2% by weight attapulgus clay, and from about .01% by weight to about 1% by weight tolytriazole.

22. (Amended) A corrosion-inhibited fire retardant composition comprising:

at least one fire retardant comprising an ammonium polyphosphate;

attapulgus clay;

at least one xanthan biopolymer having a weight average particle size less than about 100 microns;

at least one additive selected from the group consisting of suspending agents, coloring agents, surfactants, stabilizers, corrosion inhibitors, and opacifying pigments; and

a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric

acetate, ferric fluoroborate, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to reduce corrosiveness of said ammonium polyphosphate to a maximum corrosivity to aluminum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service; and wherein said biopolymer makes up from about 0.01% by weight to about 5.0% by weight of said fire retardant composition.

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23. (Amended) A method of preparing a corrosion-inhibited fire retardant composition, adapted for aerial application to wildland fires, the method comprising the steps of:

(a) forming an intermediate concentrate composition comprising:

(i) a fire retardant composition comprising an ammonium polyphosphate;

(ii) a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric fluoroborate, ferric hydroxide, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof; and

at least one biopolymer having a weight average particle size less than about 100 microns;

wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce corrosiveness of said fire retardant composition; and

(b) diluting said intermediate concentrate with water to form said corrosion-inhibited fire retardant composition.

24. (Amended) The method of claim 23 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptothiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

25. (Amended) The method of claim 23 wherein said corrosion inhibiting system comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

26. (Amended) The method of claim 23 wherein said intermediate concentrate composition further comprises at least one additive selected from the group consisting of suspending agents, coloring agents, surfactants, stabilizers, corrosion inhibitors, opacifying pigments and any combination thereof.

27. (Amended) The method of claim 23 wherein said corrosion inhibiting system comprises at least one azole and said at least one azole is present in said intermediate concentrate composition in a minor amount effective to obtain a maximum corrosivity to yellow brass of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification

5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986),” entitled “Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application,” issued by the United States Department of Agriculture, Forest Service.

28. (Amended) The method of claim 23 wherein said corrosion inhibiting system is present in said intermediate concentrate composition in a minor amount effective to reduce the corrosiveness of said intermediate concentrate composition to a maximum corrosivity to aluminum, brass or steel of 5.0 mils per year, as determined by the “Uniform Corrosion” test set forth in Section 4.5.6.1 of “Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986),” entitled “Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application,” issued by the United States Department of Agriculture, Forest Service.

29. (Amended) The method of claim 23 wherein said intermediate concentrate composition is diluted such that the corrosion-inhibited fire retardant composition has a maximum corrosivity to aluminum of 2.0 mils per year and to brass and steel of 2.0 mils per year when tested in the totally immersed condition and of 5.0 mils per year when tested in the partially immersed condition, as specified and determined by the “Uniform Corrosion” test set forth in Section 4.5.6.1 of “Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986),” entitled “Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application,” issued by the United States Department of Agriculture, Forest Service.

30. (Amended) The method of claim 23 wherein said intermediate concentrate composition further comprises at least one coloring agent selected from the group consisting of fugitive coloring agents, opacifying pigments, and highly colored pigments.

31. (Amended) The method of claim 26 wherein said suspending agents are selected from the group consisting of attapulgus clay, sepiolite, fuller's earth, montmorillonite, and kaolin clay.

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32. (Amended) The method of claim 23 wherein said fire retardant composition comprises from about .01% by weight to about 5.0% by weight said at least one biopolymer.

33. (Amended) The method of claim 23 wherein said fire retardant composition comprises about 1.0% by weight said at least one biopolymer.

35. (Amended) The method of claim 23 wherein said at least one biopolymer is selected from the group consisting of the xanthan, rhamosan and welan biopolymers.

36. (Amended) The method of claim 35 wherein said at least one biopolymer is a xanthan biopolymer.

37. (Amended) The method of claim 36 wherein said xanthan biopolymer makes up about 1% by weight of said corrosion-inhibited fire retardant composition.

38. (Amended) The method of claim 23 wherein said step of forming an intermediate concentrate composition comprises forming a concentrate comprising from about 2% by weight to about 3% by weight ferric pyrophosphate.

39. (Amended) The method of claim 23 wherein said step of forming an intermediate concentrate composition comprises forming a concentrate comprising from about 2% by weight to about 3% by weight ferric pyrophosphate and about 1% by weight xanthan biopolymer.

40. (Amended) The method of claim 23 wherein said step of forming an intermediate concentrate composition comprises forming a concentrate comprising from about 1% by weight to about 2% by weight iron oxide, from about 2% by weight to about 3% by weight ferric

pyrophosphate, about 1% by weight xanthan biopolymer, about 2% by weight attapulgus clay, and from about .01% by weight to about 1% by weight tolytriazole.

41. (Amended) A method of preparing a corrosion-inhibited fire retardant composition, adapted for aerial application to wildland fires, the method comprising the steps of:

(a) forming an intermediate concentrate composition comprising:

(i) at least one fire retardant comprising an ammonium polyphosphate;

(ii) attapulgus clay;

(iii) a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, insoluble ferrous oxalate, soluble ferric citrate, soluble ferrous sulfate, insoluble ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof; and

from about .01% by weight to about 5.0% by weight of at least one xanthan biopolymer having a weight average particle size of less than about 100 microns;

wherein said corrosion inhibiting system is present in said intermediate concentrate composition in a minor amount effective to reduce the corrosiveness of said intermediate concentrate composition to aluminum to at most 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term

Retardant, Wildland Fire, Aircraft or Ground Application.” issued by the United States
Department of Agriculture, Forest Service; and

(b) diluting said intermediate concentrate composition with water to form said corrosion-inhibited fire retardant composition such that the corrosion-inhibited fire retardant composition has a maximum corrosivity to aluminum of 2.0 mils per year, as determined by the “Uniform Corrosion” test set forth in Section 4.5.6.1 of “Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986),” entitled “Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application.” issued by the United States Department of Agriculture, Forest Service.

42. (Amended) A method of suppressing wildland fires comprising aeriually applying to wildland vegetation a fire suppressing composition comprising:

water; and

a corrosion-inhibited fire retardant composition comprising:

at least one fire retardant comprising an ammonium polyphosphate;

at least one biopolymer having a weight average particle size of less than about 100

microns;

and

a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric

acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce the corrosiveness of said fire retardant composition.

43. (Amended) The method of claim 42 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptothiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

44. (Amended) The method of claim 42 wherein said corrosion-inhibited fire retardant composition further comprises at least one additive selected from the group consisting of suspending agents, coloring agents, surfactants, stabilizers, corrosion inhibitors, opacifying pigments, and any combination thereof.

45. (Amended) The method of claim 42 wherein said at least one corrosion inhibiting compound is at least one azole and said at least one azole is present in said corrosion-inhibited fire retardant composition in a minor amount effective to obtain a maximum corrosivity of the corrosion-inhibited fire retardant composition to yellow brass of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

46. (Amended) The method of claim 42 wherein said corrosion-inhibited fire retardant composition further comprises at least one coloring agent selected from the group consisting of fugitive coloring agents, opacifying pigments and highly colored pigments.

47. (Amended) The method of claim 44 wherein said suspending agents are selected from the group consisting of attapulgus clay, sepiolite, fuller's earth, montmorillonite, and kaolin clay.

48. (Amended) The method of claim 42 wherein said corrosion inhibiting system comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

49. (Amended) The method of claim 42 wherein said composition is a concentrate suitable for dilution for application, said corrosion inhibiting system is present in a minor amount effective to reduce the maximum corrosivity of said corrosion-inhibited fire retardant composition to aluminum to 5.0 mils per year, to brass to 5.0 mils per year, and to steel to 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

50. (Amended) The method of claim 42 wherein said corrosion inhibiting system makes up from about .01% by weight to about 10.0% by weight of said corrosion-inhibited fire retardant composition.

51. (Amended) The method of claim 42 wherein said corrosion inhibiting system makes up from about .30% by weight to about 6.0% by weight of said corrosion-inhibited fire retardant composition.

52. (Amended) The method of claim 42 wherein said corrosion inhibiting system makes up from about .60% by weight to about 5.0% by weight of said corrosion-inhibited fire retardant composition.

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53. (Amended) The method of claim 42 wherein said corrosion-inhibited fire retardant composition comprises from about .01% by weight to about 5.0% by weight said at least one biopolymer.

54. (Amended) The method of claim 53 wherein said corrosion-inhibited fire retardant composition comprises about 1.0% by weight said at least one biopolymer.

55. (Amended) The method of claim 42 wherein said at least one biopolymer is selected from the group consisting of xanthan, rhamosan and welan biopolymers.

57. (Amended) The method of claim 55 wherein said at least one biopolymer is a xanthan biopolymer.

58. (Amended) The method of claim 57 wherein said xanthan biopolymer makes up about 1% by weight of said corrosion-inhibited fire retardant composition.

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59. (Amended) The method of claim 42 wherein said fire suppressing composition comprises from about 2% by weight to about 3% by weight ferric pyrophosphate.

60. (Amended) The method of claim 42 wherein said fire suppressing composition comprises from about 2% by weight to about 3% by weight ferric pyrophosphate and about 1% by weight biopolymer.

61. (Amended) The method of claim 42 wherein said fire suppressing composition comprising from about 1% by weight to about 2% by weight iron oxide, from about 2% by weight to about

3% by weight ferric pyrophosphate, about 1% by weight xanthan biopolymer, about 2% by weight attapulgus clay, and from about .01% by weight to about 1% by weight tolytriazole.

62. (Amended) A method of suppressing wildland fires comprising aeriually applying to wildland vegetation a fire suppressing composition comprising:

water; and

a corrosion-inhibited polyphosphate composition comprising:

at least one ammonium polyphosphate;

attapulgus clay;

from about .01% by weight to about 5.0% by weight at least one xanthan gum having a particle size less than 100 microns;

at least one additive selected from the group consisting of coloring agents, surfactants, stabilizers, corrosion inhibitors, and any combination thereof; and

a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to reduce the maximum corrosivity of said corrosion-inhibited polyphosphate composition to aluminum to 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of

“Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986),” entitled “Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application,” issued by the United States Department of Agriculture, Forest Service.

63. (Amended) A method of inhibiting corrosion comprising:

providing a corrodible material; and

contacting said corrodible material with a composition for inhibiting corrosion

comprising at least one biopolymer having a weight average particle size less than about 100 microns and an effective amount of a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate and any combination thereof.

64. (Amended) The method of claim 63 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptothiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

65. (Amended) The method of claim 63 wherein said corrosion inhibiting system comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

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66. (Amended) The method of claim 63 wherein said corrosion inhibiting system further comprises at least one additive selected from the group consisting of suspending agents, coloring agents, opacifying pigments, surfactants, stabilizers, corrosion inhibitors, and any combination thereof.

67. (Amended) The method of claim 63 wherein said corrodible material is selected from the group consisting of steel, brass and aluminum.

69. (Amended) The method of claim 66 wherein said suspending agents are selected from the group consisting of attapulgus clay, Fuller's earth, montmorillonite, sepiolite and kaolin clay.

70. (Amended) The method of claim 63 wherein said at least one biopolymer is present in said composition for inhibiting corrosion in a concentration of from about .01% by weight to about 5.0% by weight.

71. (Amended) The method of claim 70 wherein said at least one biopolymer is present in said composition for inhibiting corrosion in a concentration of about 1.0% by weight.

72. (Amended) The method of claim 63 wherein said at least one biopolymer is selected from the group consisting of xanthan, rhamosan and welan biopolymers.

74. (Amended) The method of claim 72 wherein said at least one biopolymer is a xanthan biopolymer.

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75. (Amended) The method of claim 74 wherein said xanthan biopolymer is present in the composition for inhibiting corrosion in a concentration of about 1% by weight.

76. (Amended) The method of claim 63 wherein said composition comprises from about 2% by weight to about 3% by weight ferric pyrophosphate.

77. (Amended) The method of claim 63 wherein said composition comprises from about 2% by weight to about 3% by weight ferric pyrophosphate and about 1% by weight xanthan biopolymer.

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78. (Amended) The method of claim 63 wherein said composition comprises from about 1% by weight to about 2% by weight iron oxide, from about 2% by weight to about 3% by weight ferric pyrophosphate, about 1% by weight xanthan biopolymer, from about 1% by weight to about 2% by weight attapulgus clay, and from about .01% by weight to about 1% by weight tolytriazole.

79. (Amended) A method of inhibiting corrosion comprising: providing a corrodible material, and contacting said corrodible material with a composition for inhibiting corrosion comprising from about .01% by weight to about 5.0% by weight at least one xanthan gum having a particle size less than 100 microns and an effective amount of a corrosion inhibiting system comprising ferric pyrophosphate.